Drying Tumblers

110 Pound Capacity

Installation

Keep These Instructions for Future Reference.
(If this machine changes ownership, this manual must accompany machine.)

Alliance Laundry Systems

Part No. D0582
September 2007

Addendum A

Information in this manual is applicable to these models:

HD110

D0582

IMPORTANT NOTES - PLEASE READ

For optimum efficiency and safety, we recommend that you read the manual before operating the equipment. Store this manual in a file or binder and keep for future reference.

WARNING: Purchaser must post the following notice in a prominent location:

WARNING: **For your safety, tbe information in this manual must be followed to minimize tbe risk of fire or explosion or to prevent property damage, personal injury, or death.**

- Do not store or use gasoline or other flammable liquids or vapors in the vicinity of this or any otber appliance.

- WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliances.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Clear the room, building, or area of all occupants.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WARNING: In the event the user smells gas odor, instructions on what to do must be posted in a prominent location. This information can be obtained from the local gas supplier.

WARNING: Wear safety shoes to prevent injuries.

WARNING: Purchaser must post the following notice in a prominent location:

FOR YOUR SAFETY
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING: A clothes dryer produces combustible lint and should be exhausted outside the building. The dryer and the area around the dryer should be kept free of lint.

WARNING: Be safe, before servicing machine, the main power should be shut off.

WARNING: To avoid fire hazard, do not dry articles containing foam rubber or similar texture materials. Do not put into this dryer flammable items such as baby bed mattresses, throw rugs, undergarments (brassieres, etc.) and other items which use rubber as padding or backing. Rubber easily oxidizes causing excessive heat and possible fire. These items should be air dried.

WARNING: Synthetic solvent fumes from drycleaning machines create acids when drawn through the dryer. These fumes cause rusting of painted parts, pitting of bright or plated parts, and completely removes the zinc from galvanized parts, such as the tumbler basket. If drycleaning machines are in the same area as the tumbler, the tumbler's make-up air must come from a source free of solvent fumes.

WARNING: Do not operate without guards in place.

WARNING: Check the lint trap often and clean as needed but at least a minimum of once per day.

WARNING: Alterations to equipment may not be carried out without consulting with the factory and only by a qualified engineer or technician. Only **Manufacturer's** parts may be used.

WARNING: Remove clothes from dryer as soon as it stops. This keeps wrinkles from setting in and reduces the possibility of spontaneous combustion.

WARNING: Be safe - shut main electrical power and gas supply off externally before attempting service.

WARNING: Never use drycleaning solvents, gasoline, kerosene, or other flammable liquids in the dryer. ***FIRE AND EXPLOSION WILL OCCUR. NEVER PUT FABRICS TREATED WITH THESE LIQUIDS INTO THE DRYER. NEVER USE THESE LIQUIDS NEAR THE DRYER.***

WARNING: Do not place items exposed to cooking oils in your dryer. Items contaminated with cooking oils may contribute to a cbemical reaction tbat could cause a load to catch fire.

WARNING: Never let children play near or operate the dryer. Serious injury could occur if a child should crawl inside and the dryer is turned on.

WARNING: Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer. These fibers cause skin irritation if they become mixed with other fabrics.

WARNING: Before operating gas ignition system - purge air from natural gas or propane gas lines per manufacturer's instructions.

WARNING: To reduce the risk of electric shock, disconnect this appliance from the power supply before attempting any user maintenance other than cleaning the lint trap. Turning the controls to the OFF position does not disconnect this appliance from the power supply.

ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:

AVERTISSEMENT. Assurez-vous de bien suivre les instructions donnees dans cette notice pour reduire au minimum le risque d'incendie ou d'explosion ou pour eviter tuot dommage materiel, toute blessure ou la mort.

__ Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre apparell.

__ **QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:**

- Ne pas tenter d'allumer d'apparell.
- Ne touchez a aucun interrupteur. Ne pas vous servir des telephones se trouvant dans le batiment ou vous vous trouvez.
- Evacuez la piece, le batiment ou la zone.
- Appelez immediatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

__ l'installation et l'entretien doivent etre assures par un installateur ou un service d'entretien qualifie ou par le fournisseur de gaz.

ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:

POUR VOTRE SECURITE

Ne pas entreposer ni utiliser d' essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

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CUSTOMER SERVICE

If literature or replacement parts are required, contact the source from which the machine was purchased or contact Alliance Laundry Systems at (920) 748-3950 for the name and address of the nearest authorized parts distributor.

For technical assistance, call (920) 748-3121.

The following symbols are used in this manual and/or on the machine.

Symbol	Description
	NOTE!
	Hot! Do Not Touch **Heiß! Nicht Beruhren** **Haute temperature! Ne pas toucher** **Caliente! no tocar**
	dangerous voltage **tension dangereuse** **Gefährliche elektrische Spannung** **tension peligrosa**
	on **marche** **Ein** **conectado**
	off **arrêt** **Aus** **desconectado**
	start **demarrage** **Start** **arranque de un movimiento**
	emission of heat in general **êmission de chaleur en general** **Warmeabgabe allgemein** **emisión de calor**
	cooling **refroidissement** **Kühlen** **enfriamiento**

Symbol	Description
	rotation in two directions **rotation dans les deux sens** **Drehbewigung in zwei Richtungen** **movimiento rotativo en los dos sentidos**
	direction of rotation **sens de mouvement continu de rotation** **Drehbewegung in Pfeilrichtung** **movimiento giratorio o rotatorio en el sentido de la flecha**
	End of Cycle
	caution **attention** **Achtung** **atencion; precaucion**

UNPACKING

This dryer is packed in a large wooden crate.

Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.

Upon locating permanent location of a unit, care should be taken in movement and placement of equipment.

See outline clearance diagrams for correct dimensions.

Remove all packing material such as: tape, manuals, skid, etc.

Leveling: Use spirit level on top of dryer. The use of shims are acceptable for this procedure.

Check voltage and amperes on rating plate before installing the dryer.

On gear reducer models, remove screw and insert red vent attached to reducer.

GENERAL INSTALLATION (ALL DRYERS)

The construction of the dryers permits installation side-by-side to save space or to provide a wall arrangement. Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearance from all combustable material is 12" (305 mm) ceiling clearance, 24" (610 mm) rear clearance, and 0" side clearance.

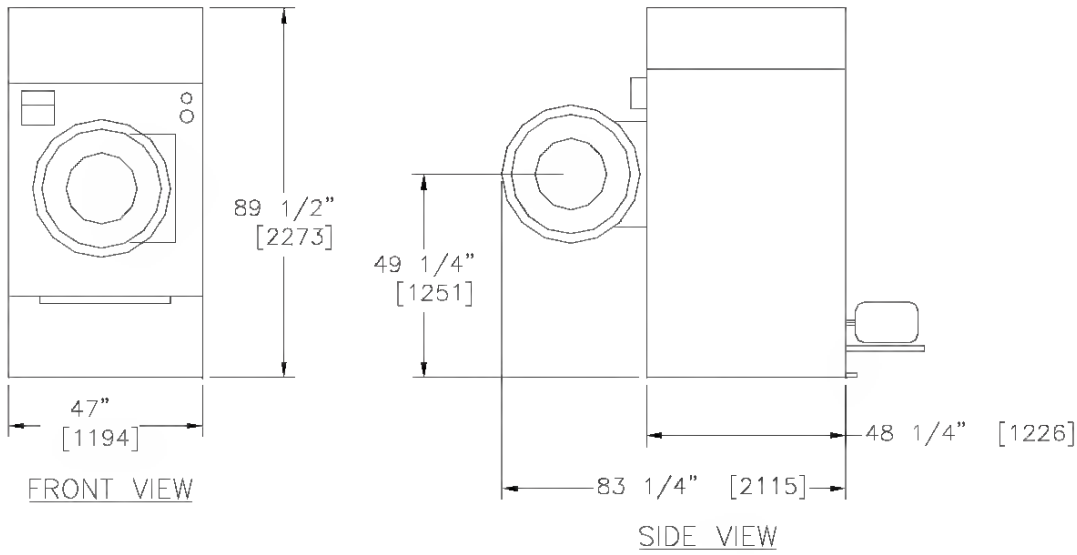
Before operating dryer, open basket door and remove blocking between front panel and basket. Read the instruction tags, owner's manual, warnings, etc.

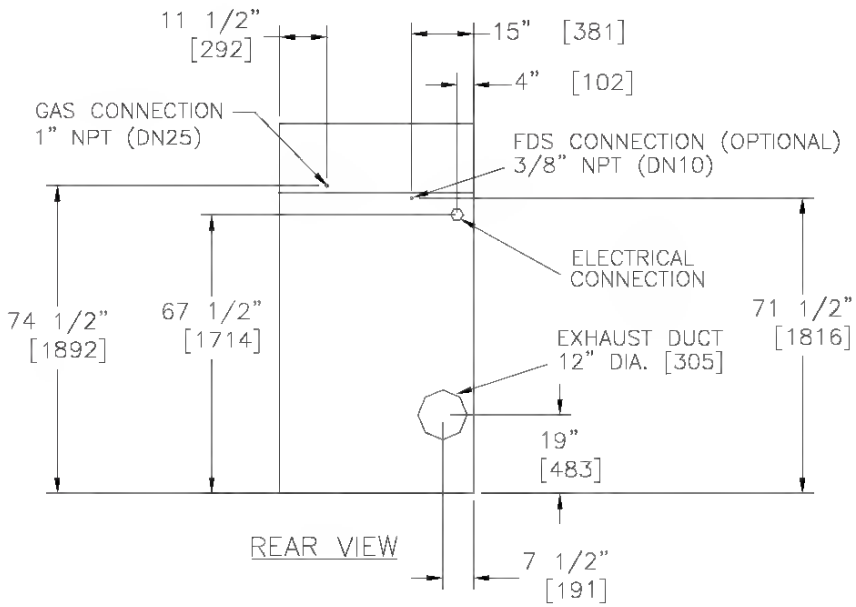
IMPORTANT
Opening the clothes loading door deactivates the door switch to shut off the motors, fan, gas, steam, or electric element. To restart the dryer, close the door and press in the push to start button for approximately 2 seconds.

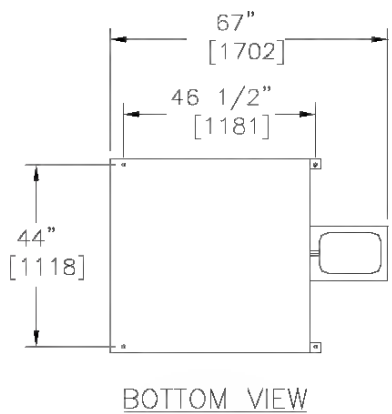
IMPORTANT
This dryer is designed for a capacity maximum load. Overloading it will result in long drying times and damp spots on some clothes.

IMPORTANT
Maximum operating efficiency is dependent upon proper air circulation. The lint screen must be kept clean daily to insure proper air circulation throughout the dryer.

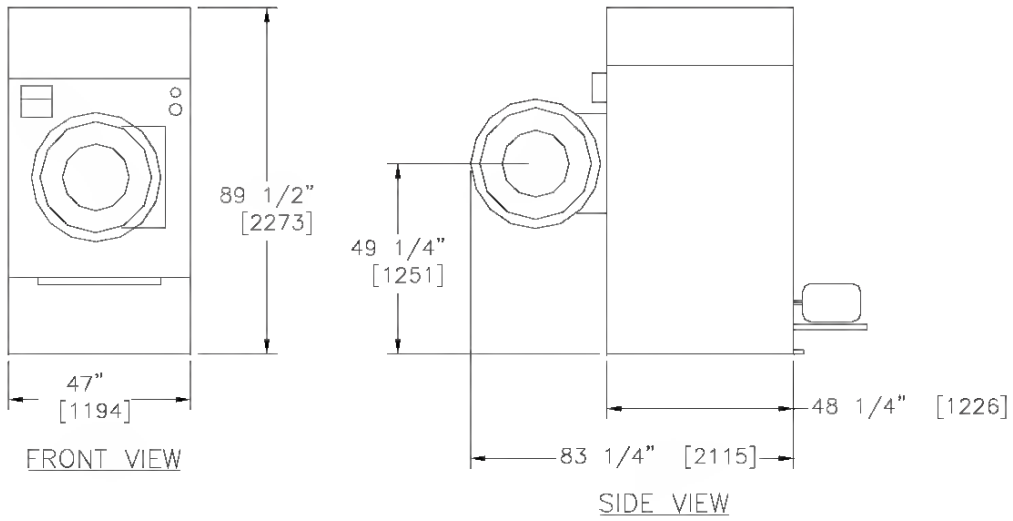
IMPORTANT
Provide adequate clearance for air opening into the combustion chamber.

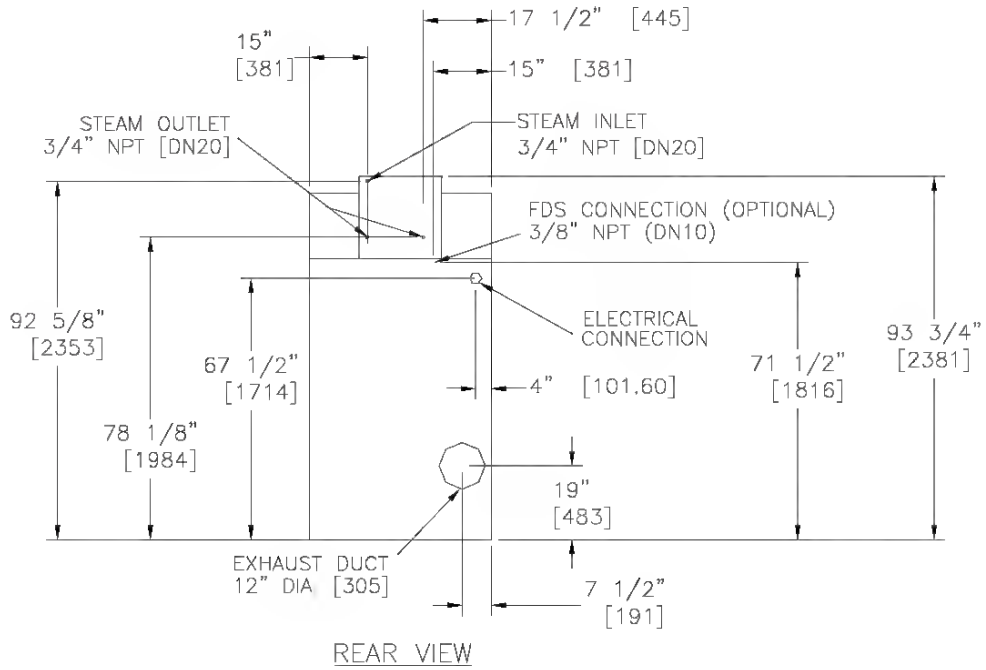


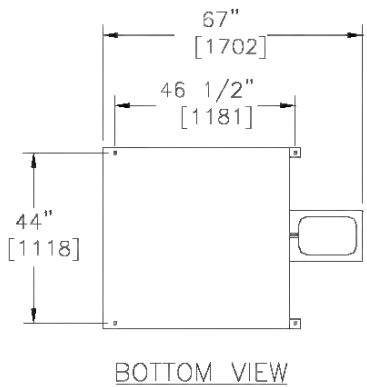




ALL DIMENSIONS ARE +/- 1/4" (6.4 MM) AND ARE SUBJECT TO CHANGE WITHOUT NOTICE







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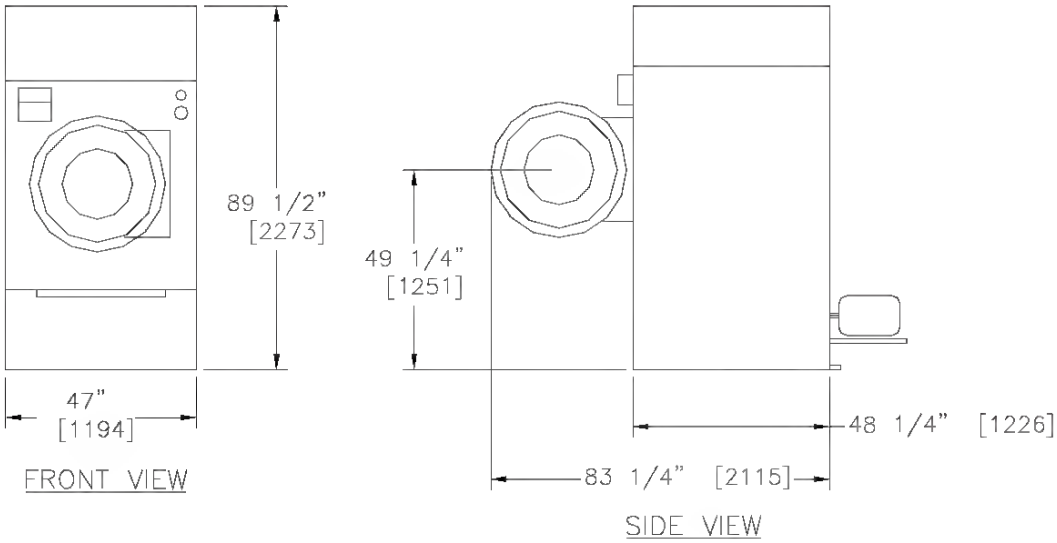
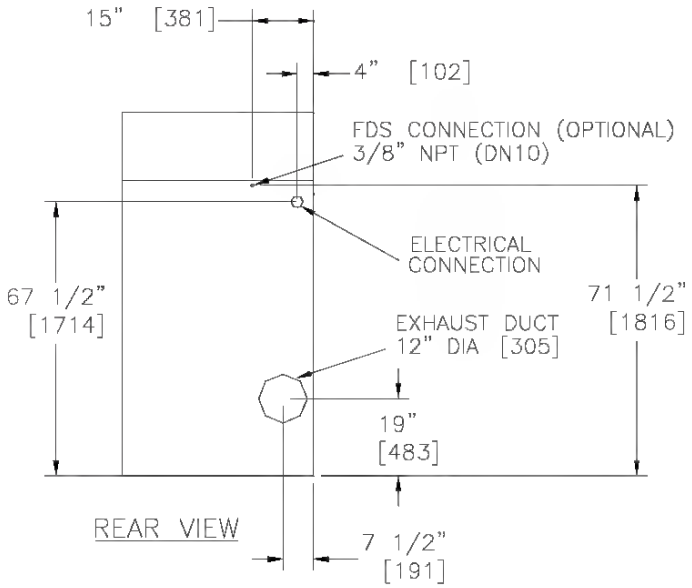
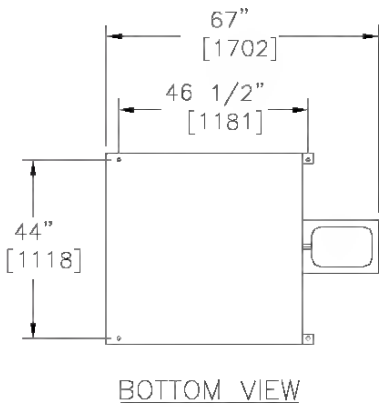






ALL DIMENSIONS ARE +/- 1/4" (6.4 MM) AND ARE SUBJECT TO CHANGE WITHOUT NOTICE

GENERAL SPECIFICATIONS FOR 110 lb. DRYERS

Floor Space	
Gas	67" Deep x 47" W x 89-1/8" H (1702 mm x 1194 mm x 2264 mm)
Steam	67" Deep x 47" W x 93-3/4" H (1702 mm x 1194 mm x 2382 mm)
Door Opening	31-1/4" diameter (794 mm)
Basket Size	44" diameter x 42" Deep (1118 mm x 1067 mm)
Basket Load Capacity	110 lbs. (50 kg) dryweight
Basket Motor	1 hp (.75 kW)
Fan Motor	1-1/2 hp (1.12 kW)
Basket RPM	
Reversing	28 (3.2 reversals per minute)
Non-Reversing	34
Exhaust Duct	12" diameter (305 mm)
Maximum Air Displacement	
Steam	2000 cfm (3400 m^3/h)
Gas	2000 cfm (3400 m^3/h))
Recommended Operating Range	1800-2000 cfm (3060-3400 m^3/h)
Net Weight (approximate)	
Steam	1,614 lb. (733 kg)
Gas	1,515 lb. (688 kg)
Shipping Weight	
Steam - 1 crate (approx.)	1,764 lb. (801 kg)
Gas - 1 crate (approx.)	1,665 lb. (756 kg)
Export Shipping Dimensions	93" L x 53" W x 78" H - 232.7 cu. ft. (2363 mm x 1347 mm x 1982 mm - 6.59 m^3
BTU Input Rating	250,000 Btu/h (63,000 kcal/h) (nat., mixed and mfg. gases) 250,000 Btu/h (63,000 kcal/h) (propane and butane gases)
Gas Supply	3/4" (DN20) pipe connection
Electric Ignition	Direct Spark Ignition System
Manifold Gas Pressure	3.5" w.c. (8.8 mbar) Max. (Nat. Gas); 11" w.c. (27.4 mbar) (LP Gas)
Drying Time (dry weight)	110 lb. (49.9 kg) (Indian Head)
(Approximate - testing in laboratory)	70% water retention - 25 min. 50% water retention - 22 min.

STEAM HEATED DRYERS ONLY

Operating Steam Pressure ..... 100 PSIG (6.9 bar) Max.

Boiler HP (w/normal ld.) (*14FPI*) ..... 10.4 (7.76 kW)
(*4-Coil*) ..... 7.87 (5.88 kW)
(*6-Coil*) ..... 9.5 (5.88 kW)

Steam Coils ..... (2) 40-1/2"L x 15-3/4"H x 6"W
(2) (1029 mm x 401 mm x 153 mm)

Traps for Steam Heating Coils ..... 3/4" (20 mm) (DN20) (2)

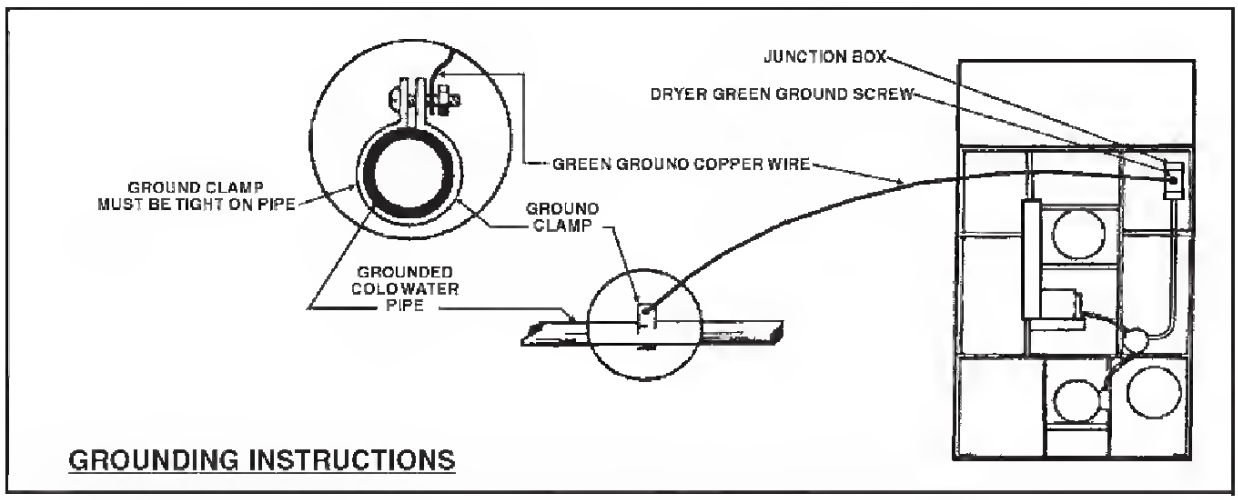
Steam Supply Line ..... 3/4" (20 mm) (DN20)

Steam Return Line ..... 3/4" (20 mm) (DN20)

ELECTRIC LAUNDRY DRYER (see Electric Bonnet Sheet)

Drying Time
(Dry Weight)
80 kW ..... 110 lb. (49.9 kg) Indian Head cloth
(Approx. - teasting in lab.)
80 kW ..... 70% water retention - 31 min.
50% water retention - 23 min.

Rated Heater Input	Heater Amps, Motor Amps, Control Amps, Total Amperes at Rated Voltage	HZ.	Minimum Size Supply Wire Based on 75° C (167 F) Insulated Copper Conductor	Branch Circuit Maximum Fuse Size.
60kW @ 208V/3Ph.	174 Amps	60	000 MCM	200
60kW @ 240V/3Ph.	152 Amps	60	00 MCM	175
60kW @ 380-415V/3Ph.	89 Amps	50	2 AWG	110
60kW @ 480V/3Ph.	77 Amps	60	3 AWG	90
60kW @ 575V/3Ph.	63 Amps	60	4 AWG	80



ELECTRICAL CONNECTIONS FOR ALL DRYERS

Dryers must be electrically grounded by a separate #14 or larger green wire from the **grounding terminal** within the service connection box, to a cold water pipe. In all cases, the grounding method must comply with **local electrical code requirements**; or in the absence of local codes, with the ***National Electrical Code, ANSI/NFPA 70 or the Canadian Electrical Code, CA C22.1—Latest Edition.***

See wiring diagram furnished with dryer. Your dryer is completely wired at the factory and it is only necessary for the electrician to connect the power leads to the wire connectors within the service connection box on the rear of the dryer. **Do not change wiring without consulting the factory, as you may void the factory warranty. DO NOT CONNECT THE DRYER TO ANY VOLTAGE OR CURRENT OTHER THAN THAT SPECIFIED ON THE DRYER RATING PLATE.** (Wiring diagram is located on rear wall of dryer.)

All panels must be in position before operation of dryer.

«Attention. Lors des opérations d'entretien des commandes, ètiqueter tous les fils avant de les dèconnecter. Toute erreur de câblage peut être une source de danger et de panne»

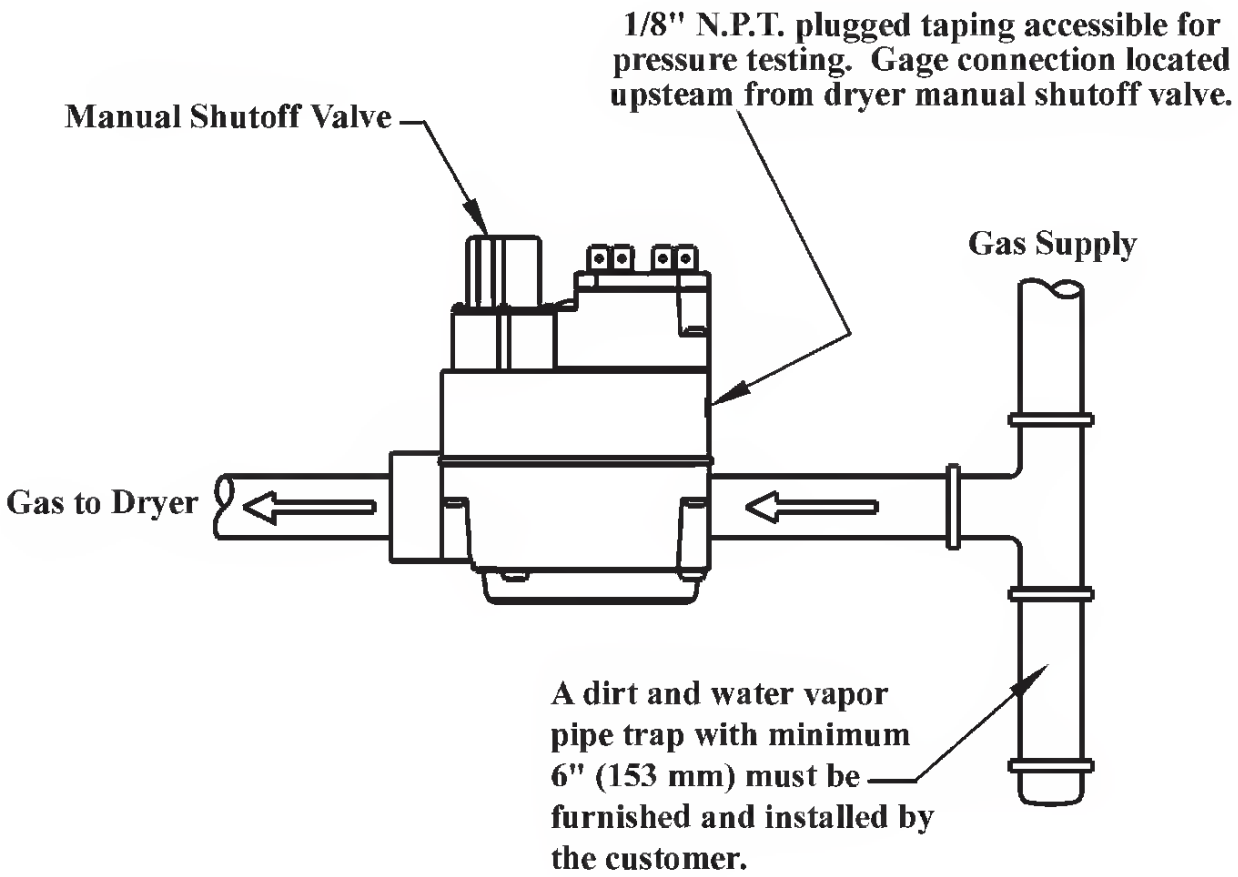
GAS SERVICE INSTALLATION INFORMATION

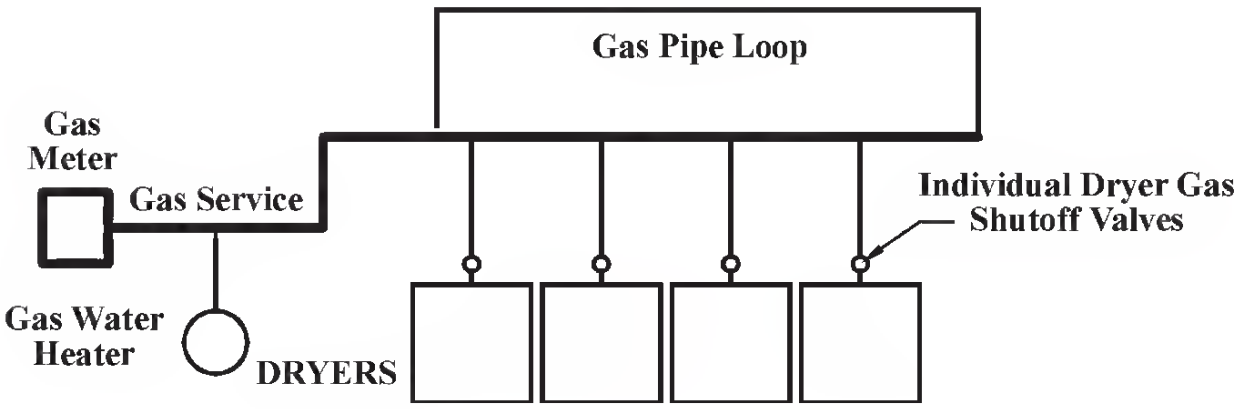
The size of the gas service pipe is dependant upon many variables, such as tees, lengths, etc. Specific pipe size should be obtained from the gas supplier. Refer to the *Gas Pipe Size Chart* in this manual for general *gas pipe size* information.

CAUTION
Gas loop piping must be installed as shown in Illustration, to maintain equal gas pressure for all dryers connected to a single gas service.

Other gas using appliances should be connected upstream from the loop.

WARNING
(LIQUIFIED PETROLEUM GASES ONLY)
A Gas Pressure Regulator for Liquified Petroleum Gases is not furnished on Gas Heated Clothes Dryers. This regulator is normally furnished by the installer. In accordance with American Gas Association (AGA) standards, a gas pressure regulator, when installed indoors, must be equipped with a vent limiter, or a vent line must be installed from the gas pressure regulator vent to the outdoors.


1/8" N.P.T. plugged taping accessible for pressure testing. Gage connection located upsteam from dryer manual shutoff valve.
Manual Shutoff Valve
Gas Supply
Gas to Dryer
A dirt and water vapor pipe trap with minimum 6" (153 mm) must be furnished and installed by the customer.


Gas Pipe Loop
Gas Meter
Gas Service
Individual Dryer Gas Shutoff Valves
Gas Water Heater
DRYERS

TOTAL BTU/HR (for LP Gas correct total BTU/HR below by multiplying by .6)	TOTAL KCAL	GAS PIPE SIZE FOR 1000 BTU (250 KCAL) NATURAL GAS AT 7" W.C. (17.5 MBAR) PRESSURE In figuring total length of pipe, make allowance for tees and elbows.					
	HOUR	(25 ft.) 7,62 m	(50 ft.) 15,24 m	(75 ft.) 22,86 m	(100 ft.) 30,48 m	(125 ft.) 38,1 m	(150 ft.) 45,72 m
60,000	15000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	20000	3/4	3/4	3/4	1	1	1
100,000	25200	3/4	3/4	1	1	1	1
120,000	30200	3/4	1	1	1	1	1
140,000	35200	3/4	1	1	1	1	1 1/4
160,000	40300	3/4	1	1	1 1/4	1 1/4	1 1/4
180,000	45300	1	1	1	1 1/4	1 1/4	1 1/4
200,000	50400	1	1	1 1/4	1 1/4	1 1/4	1 1/2
300,000	75600	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
400,000	100800	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
500,000	126000	1 1/4	1 1/2	1 1/2	2	2	2
600,000	151200	1 1/2	1 1/2	2	2	2	2
700,000	176400	1 1/2	2	2	2	2	2 1/2
800,000	202000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	230000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	250000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	270000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	300000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	330000	2	2 1/2	2 1/2	2 1/2	2 1/2	3
1,400,000	350000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	380000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	400000	2	2 1/2	2 1/2	3	3	3
1,700,000	430000	2	2 1/2	2 1/2	3	3	3
1,800,000	450000	2 1/2	2 1/2	3	3	3	3
1,900,000	480000	2 1/2	2 1/2	3	3	3	3
2,000,000	504000	2 1/2	2 1/2	3	3	3	3 1/2
2,200,000	550000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	605000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	650000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	705000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	750000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	806000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	850000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	907000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	960000	3	3 1/2	3 1/2	4	4	4
4,000,000	1000000	3	3 1/2	3 1/2	4	4	4

GAS PIPING INSTALLATION

1. The installation must conform to local codes or in absence of local codes, with the ***National Fuel Gas Code, ANSI Z223.1 or the CAN/CGA-B149, Installation Codes.***

2. Check with utilities for proper gas pressure and gas supply line.

3. Check the altitude elevation of dryer.

4. The dryer and its individual shut-off valve must be disconnected from the gas supply piping system at test pressures in excess of 1/2 psig (.04 bar).

5. The dryer must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system, at test pressures equal to or less than 1/2 psig (.04 bar).

NATURAL GAS ONLY
Check the gas pressure inlet supply to the dryer, 11"w.c. (27.4 bar) pressure maximum. Check the manifold pressure, 3.5"w.c. (8.8 bar) pressure inside the dryer.

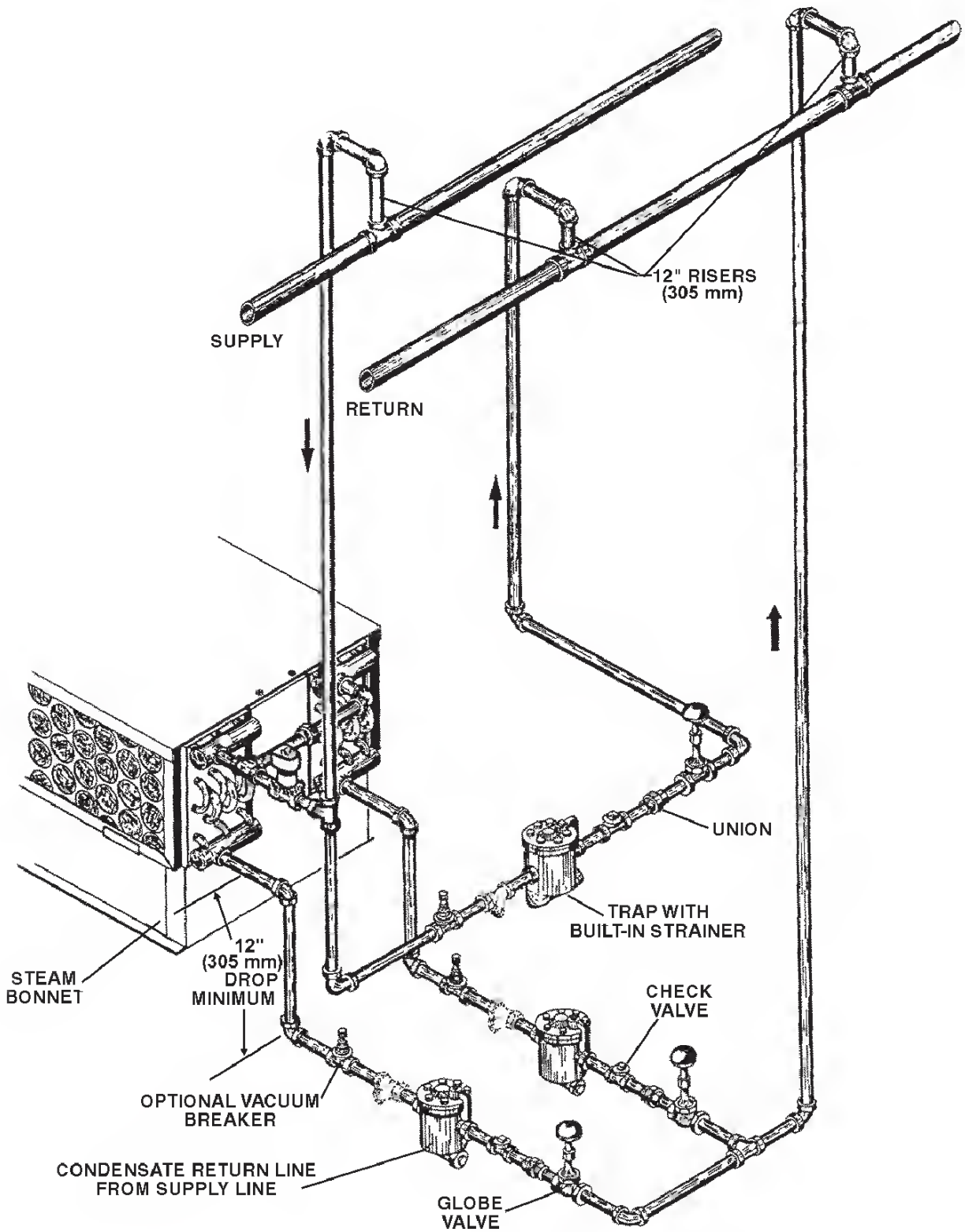
CAUTION
Low gas pressure and intermittent gas will cause gas ignition problems and inadequate drying of the clothes load.

INSTALLATION INSTRUCTIONS

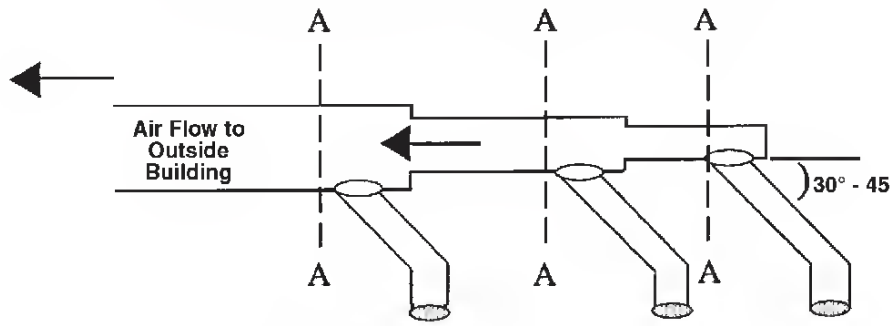
1. Set and anchor dryer in position. Machine should be level to assure proper steam circulation.
2. To prevent condensate draining from headers to dryer, piping should have a minimum 12" (305 mm) above respective header. Do not make steam connection to header with a horizontal or downwardly facing tee or elbow.
3. Whenever possible, horizontal runs of steam lines must drain, by gravity, to respective steam header. Water pockets, or an improperly drained steam header will provide wet steam, causing improper operation of dryer. If pockets or improper drainage cannot be eliminated, install a bypass trap to drain condensate from the low point in the steam supply header to the return.
4. In both steam supply and steam return line, it is recommended that each have a 3/4" (20 mm) union and 3/4" (20 mm) globe valve. This will enable you to disconnect the steam connections and service the dryer while your plant is in operation.
5. Before connecting trap and check valve to dryer, open globe valve in steam supply line and allow steam to flow through dryer to flush out any dirt and scale from dryer. This will assure proper operation of trap when connected.
6. After flushing system, install bucket trap (with built-in strainer) and check valve. For successful operation of dryer, install trap 18" (458 mm) below coil and as near to the dryer as possible. Inspect trap carefully for inlet and outlet markings and install according to trap manufacturer's instructions. If steam is gravity returned to boiler, omit trap but install check valve in return line near dryer.
7. Install union and globe valve in return line and make final pipe connections to return header.

PIPING RECOMMENDATIONS

1. Trap each dryer individually. Always keep the trap clean and in good working condition.
2. When dryer is on the end of a line of equipment, extend header at least 4 feet (2 m) beyond dryer. Install globe valve, union, check valve and bypass trap at end of line. If gravity returned to boiler, omit trap.
3. Insulate steam supply and return line for safety of operator and safety while servicing dryer.
4. Keep dryer in good working condition. Repair or replace any worn or defective parts.


12" RISERS
(305 mm)
SUPPLY
RETURN
UNION
TRAP WITH
BUILT-IN STRAINER
STEAM
BONNET
12"
(305 mm)
DROP
MINIMUM
CHECK
VALVE
OPTIONAL VACUUM
BREAKER
CONDENSATE RETURN LINE
FROM SUPPLY LINE
GLOBE
VALVE

For Exhaust Duct less than 14 feet and 2 elbows equivalent and less than 0.6 inches static pressure.



DRYER EXHAUSTS

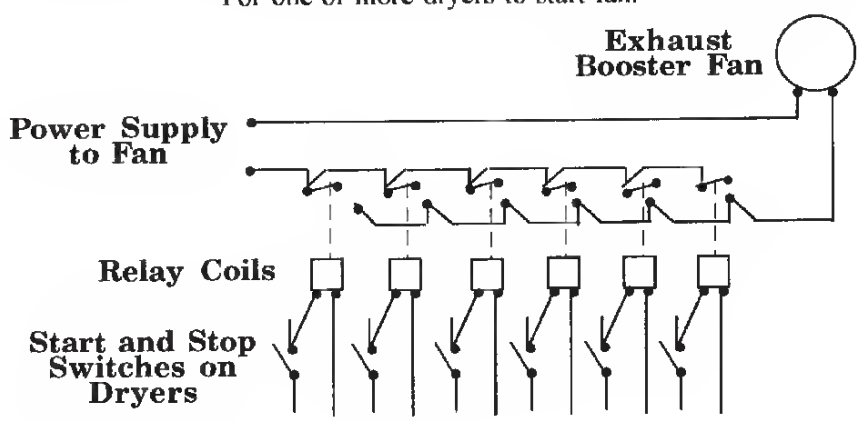
Area of section "A-A" must be equal to the sum of dryer exhaust pipes entering muliple exhaust pipe. *(See chart below.)*

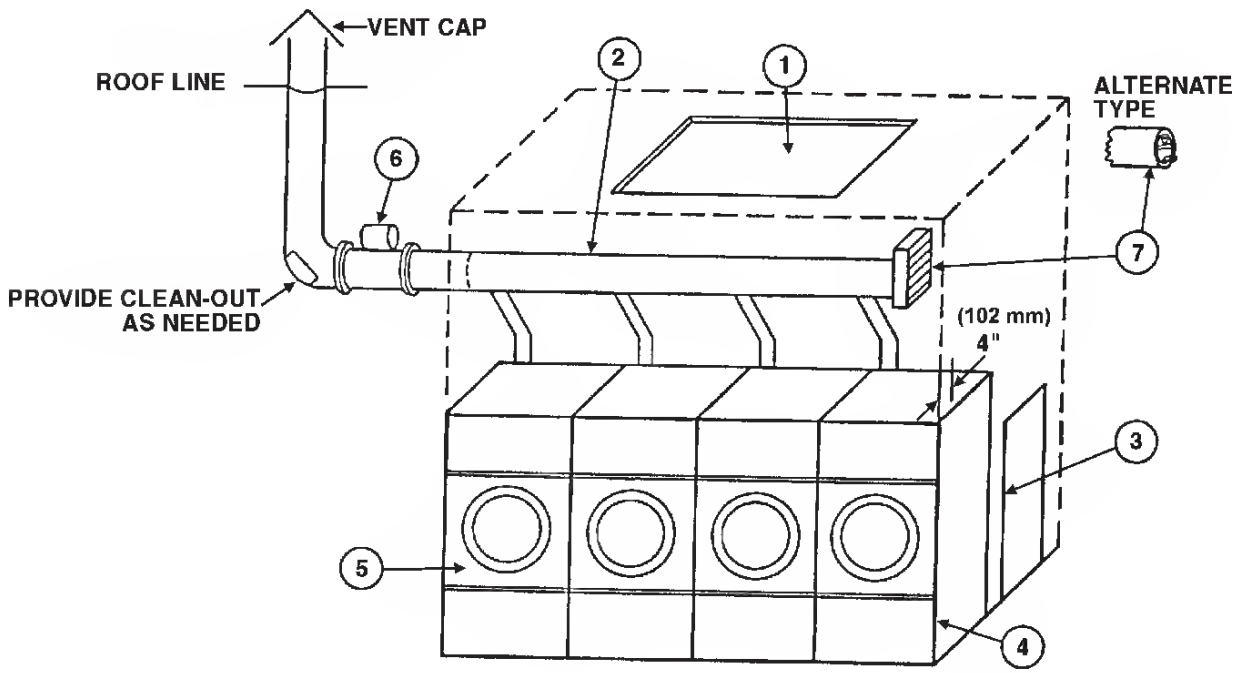
MODELS: HD110

No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12
Duct Diameter (in inches)	12	17	21	24	27	30	32	34	36	38	40	42
(in cm)	30	43	53	61	68	76	81	86	91	97	100	106

AUTOMATIC ELECTRICAL CONTROL FOR EXHAUST FAN

For one or more dryers to start fan.




VENT CAP
ROOF LINE
2
1
ALTERNATE TYPE
6
7
PROVIDE CLEAN-OUT AS NEEDED
(102 mm) 4"
3
5
4

EXHAUST INSTALLATION— MULTIPLE MANIFOLD DUCT

For Exhaust Duct more than 14 feet (5 m) and 2 elbows equivalent and more than 0.3 inches (8 mm) static pressure.

1. Make-up air from outside building may enter enclosure from top or side walls. ***(See Dryer Make-Up Air Requirements Chart)***

2. Use constant diameter duct with area equal to the sum of dryer duct areas.

   EXAMPLE: 6-8 in. (153-204 mm) diameter duct = 1-19.6 in. (26-498 mm) diameter duct in area. Use 20 in. (508 mm) diameter duct or diameter to match tube-axial fan.

3. Enclosure (plenum) with service door. This separates the dryer air from room comfort air. If dryers use room air instead of outside air, the heat loss can be another 25 Btu/h (6.3 kcal/h) for each cubic foot per minute (cfm) used.

   EXAMPLE: 110 lb. dryer, 2000 cfm (3400 m^3/h) = 50,000 Btu/h (12,600 kcal/h) loss.

4. Zero inches clearance to combustible material allowed on sides and at points within 4 inches (102 mm) of front on top.

5. Heat loss into laundry room from dryer fronts *only* is about 60 Btu/h (16 kcal/h) per square foot.

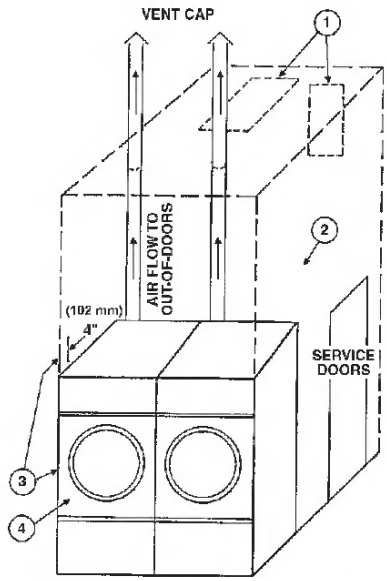
6. Flange mounted, belt driven tube-axial fan. Fan must run when one or more dryers are running. *See suggested Automatic Electrical Control Wiring Diagram on page 23.* Must meet local electrical codes. Fan air flow (cfm) is equal to sum of dryer air flows, but static pressure (SP) is dependent on length of pipe and number of elbows.

7. Barometric bypass damper—Adjust to *closed flutter position* with all dryers and exhaust fan running. Must be located within enclosure.

CAUTION
***Never* install hot water heaters or other gas appliances in the same room as dryers. *Never* install cooling exhaust fans in the same room as dryers.**

CAUTION
Never exhaust dryers with other types of equipment.

Dryer Model	Dryer Pocket Capacity		Maximum Air Flow Rate per Pocket		Duct Size For Service Connection		Required Make-up Air Area per Pocket	
	lb	kg	cfm	m3/h	inch	mm	sq. inch	cm2
HD110	110	50	2200	3740	12	305	422	2723
HD110 E/S	110	50	850	1445	8	203	163	1052



DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)

DRYER INSTALLATION WITH SEPARATE EXHAUST (PREFERRED)

For Exhaust Duct less than 14 feet (5 m) and 2 elbows equivalent and less than 0.3 (8 mm) inches static pressure.

NEVER exhaust the dryer into a chimney.

NEVER install wire mesh screen over the exhaust or make-up air area.

NEVER exhaust into a wall, ceiling, or concealed space.

1. Make-up air opening from outside the building may enter the enclosure from the top or side walls. ***(See Dryer Make-Up Air Requirements Chart)***
2. Enclosure (plenum) with service door. This separates the dryer air from the room comfort air. If dryers use room air instead of outside air, the heat loss can be another 25 Btu/h (6.3 kcal/h) for each cubic foot per minute (cfm) used. **EXAMPLE:** A 125 lb. dryer with 2000 cfm (3400 m^3/h) = heat loss of 50,000 Btu/h (12,600 kcal/h).
3. Zero inches clearance to combustible material allowed on sides and at points within 4 inches (102 mm) of front on top.
4. Heat loss into laundry room from dryer fronts *only* is about 60 Btu/h (15.2 kcal/h) per square foot.

DRYER AIR FLOW INSTALLATION

Nothing is more important than air flow for the proper operation of a clothes dryer. A dryer is a pump which draws make-up air from the out-of-doors, through the heater, through the clothes and then forces the air through the exhaust duct back to the out-of-doors. Just as in a fluid water pump, there must be a fluid air flow to the inlet of the dryer, if there is to be the proper fluid air flow out of the exhaust duct.

In summary, there must be the proper size out-of-doors inlet air opening (4-6 times the combined areas of the air outlet) and an exhaust duct, size and lengtb of which allows flow through the dryer with no more than 0.3 inches water column (.8 mbar) static pressure in the exhaust duct.

In some instances, special fans are required to supply make-up air, and/or boost exhaust fans are required for both regular and energy saving models.

EXHAUST DUCT

FOR BEST DRYING:

1. Exhaust duct maximum length 14 feet (5 m) of straight duct and maximum of two 90° bends.
2. Use 45° and 30° elbows wherever possible.
3. Exhaust each dryer separately.
4. **Do not** install wire mesh or other restrictions in the exhaust duct.
5. Use clean-outs in the exhaust duct and clean periodically when needed.
6. **Never** exceed 0.3 inches water column (.8 mbar) static pressure in the exhaust duct without a booster fan.
7. Inside surface of the duct must be smooth.
8. Recommend pop rivets for duct assembly.

MAKE-UP AIR

FOR BEST DRYING:

1. Provide opening to the out-of-doors in accordance with the following:

   For each dryer—

   8 inches (204 mm) diameter exhaust requires 2 square feet (.1858 m²) make-up air.

   12 inches (305 mm)diameter exhaust requires 4 square feet (.3716 m²) make-up air.
2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

OTHER RECOMMENDATIONS TROUBLESHOOTING

Other Recommendations

To assure compliance, consult local building code requirements.

Troubleshooting

Hot dryer surfaces, scorched clothes, slow drying, lint accumulations, or air switch malfunction are indicators of exhaust duct and/or make-up air problems.